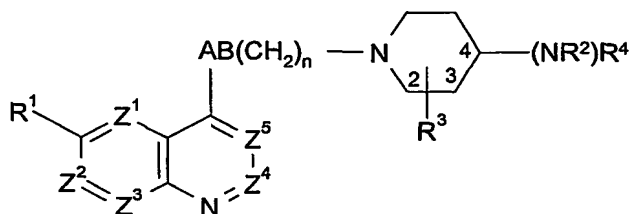


# Claims

1. A compound of formula (I) or a pharmaceutically acceptable derivative thereof:



(I)

wherein:

one of Z<sup>1</sup>, Z<sup>2</sup>, Z<sup>3</sup>, Z<sup>4</sup> and Z<sup>5</sup> is N, one is CR<sup>1a</sup> and the remainder are CH, or one of Z<sup>1</sup>, Z<sup>2</sup>, Z<sup>3</sup>, Z<sup>4</sup> and Z<sup>5</sup> is CR<sup>1a</sup> and the remainder are CH;

R<sup>1</sup> and R<sup>1a</sup> are independently hydrogen; hydroxy; (C<sub>1-6</sub>)alkoxy optionally substituted by (C<sub>1-6</sub>)alkoxy, amino, piperidyl, guanidino or amidino any of which is optionally N-substituted by one or two (C<sub>1-6</sub>)alkyl, acyl or (C<sub>1-6</sub>)alkylsulphonyl groups, CONH<sub>2</sub>, hydroxy, (C<sub>1-6</sub>)alkylthio, heterocyclylthio, heterocyclyloxy, arylthio, aryloxy, acylthio, acyloxy or (C<sub>1-6</sub>)alkylsulphonyloxy; (C<sub>1-6</sub>)alkoxy-substituted(C<sub>1-6</sub>)alkyl; halogen; (C<sub>1-6</sub>)alkyl; (C<sub>1-6</sub>)alkylthio; trifluoromethyl; trifluoromethoxy; nitro; azido; acyl; acyloxy; acylthio; (C<sub>1-6</sub>)alkylsulphonyl; (C<sub>1-6</sub>)alkylsulphoxide; arylsulphonyl; arylsulphoxide or an amino, piperidyl, guanidino or amidino group optionally N-substituted by one or two (C<sub>1-6</sub>)alkyl, acyl or (C<sub>1-6</sub>)alkylsulphonyl groups;

or when Z<sup>5</sup> is CR<sup>1a</sup>, R<sup>1a</sup> may instead be cyano, hydroxymethyl or carboxy;

or R<sup>1</sup> and R<sup>1a</sup> on adjacent positions may together form ethylenedioxy;

provided that when none of Z<sup>1</sup>, Z<sup>2</sup>, Z<sup>3</sup>, Z<sup>4</sup> and Z<sup>5</sup> is N, then R<sup>1</sup> is not hydrogen;

R<sup>2</sup> is hydrogen, or (C<sub>1-4</sub>)alkyl or (C<sub>2-4</sub>)alkenyl optionally substituted with 1 to 3 groups selected from:

amino optionally substituted by one or two (C<sub>1-4</sub>)alkyl groups; carboxy; (C<sub>1-4</sub>)alkoxycarbonyl; (C<sub>1-4</sub>)alkylcarbonyl; (C<sub>2-4</sub>)alkenyloxycarbonyl; (C<sub>2-4</sub>)alkenylcarbonyl; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, (C<sub>1-4</sub>)alkyl, hydroxy(C<sub>1-4</sub>)alkyl, aminocarbonyl(C<sub>1-4</sub>)alkyl, (C<sub>2-4</sub>)alkenyl,

(C<sub>1-4</sub>)alkylsulphonyl, trifluoromethylsulphonyl, (C<sub>2-4</sub>)alkenylsulphonyl, (C<sub>1-4</sub>)alkoxycarbonyl, (C<sub>1-4</sub>)alkylcarbonyl, (C<sub>2-4</sub>)alkenyloxycarbonyl or (C<sub>2-4</sub>)alkenylcarbonyl; cyano; tetrazolyl; 2-oxo-oxazolidinyl optionally substituted by R<sup>10</sup>; 3-hydroxy-3-cyclobutene-1,2-dione-4-yl; 2,4-thiazolidinedione-5-yl; tetrazol-5-ylaminocarbonyl; 1,2,4-triazol-5-yl optionally substituted by R<sup>10</sup>; 5-oxo-1,2,4-oxadiazol-3-yl; halogen; (C<sub>1-4</sub>)alkylthio; trifluoromethyl; hydroxy optionally substituted by (C<sub>1-4</sub>)alkyl, (C<sub>2-4</sub>)alkenyl, (C<sub>1-4</sub>)alkoxycarbonyl, (C<sub>1-4</sub>)alkylcarbonyl, (C<sub>2-4</sub>)alkenyloxycarbonyl, (C<sub>2-4</sub>)alkenylcarbonyl; oxo; (C<sub>1-4</sub>)alkylsulphonyl; (C<sub>2-4</sub>)alkenylsulphonyl; or (C<sub>1-4</sub>)aminosulphonyl wherein the amino group is optionally substituted by (C<sub>1-4</sub>)alkyl or (C<sub>2-4</sub>)alkenyl;

R<sup>3</sup> is in the 2-, 3- or 4-position and is trifluoromethyl or is in the 2-position and is oxo; or R<sup>3</sup> is in the 3-position and is fluorine or amino wherein the amino group is optionally substituted by: hydroxy; (C<sub>1-6</sub>)alkylsulphonyl; trifluoromethylsulphonyl; (C<sub>2-6</sub>)alkenylsulphonyl; (C<sub>1-6</sub>)alkylcarbonyl; (C<sub>2-6</sub>)alkenylcarbonyl; (C<sub>1-6</sub>)alkoxycarbonyl; (C<sub>2-6</sub>)alkenyloxycarbonyl; (C<sub>1-6</sub>)alkyl; or (C<sub>2-6</sub>)alkenyl; wherein a (C<sub>1-6</sub>)alkyl or (C<sub>2-6</sub>)alkenyl moiety may be optionally substituted with up to 2 groups R<sup>12</sup> independently selected from:

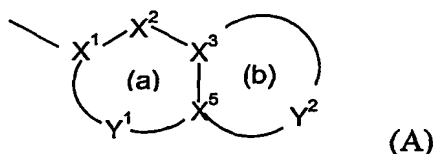
halogen; (C<sub>1-6</sub>)alkylthio; trifluoromethyl; cyano; carboxy; tetrazolyl; 2-oxo-oxazolidinyl; 3-hydroxy-3-cyclobutene-1,2-dione-4-yl; 2,4-thiazolidinedione-5-yl; tetrazol-5-ylaminocarbonyl; 1,2,4-triazol-5-yl optionally substituted by R<sup>10</sup>; or 5-oxo-1,2,4-oxadiazol-3-yl; (C<sub>1-6</sub>)alkoxycarbonyl; (C<sub>1-6</sub>)alkylcarbonyl; (C<sub>2-6</sub>)alkenyloxycarbonyl; (C<sub>2-6</sub>)alkenylcarbonyl; hydroxy optionally substituted by (C<sub>1-6</sub>)alkyl, (C<sub>2-6</sub>)alkenyl, (C<sub>1-6</sub>)alkylcarbonyl, (C<sub>2-6</sub>)alkenylcarbonyl or aminocarbonyl wherein the amino group is optionally substituted by (C<sub>1-6</sub>)alkyl, (C<sub>2-6</sub>)alkenyl; amino optionally mono- or disubstituted by (C<sub>1-6</sub>)alkoxycarbonyl, (C<sub>1-6</sub>)alkylcarbonyl, (C<sub>2-6</sub>)alkenyloxycarbonyl, (C<sub>2-6</sub>)alkenylcarbonyl, (C<sub>1-6</sub>)alkyl, (C<sub>2-6</sub>)alkenyl, (C<sub>1-6</sub>)alkylsulphonyl, (C<sub>2-6</sub>)alkenylsulphonyl or aminocarbonyl wherein the amino group is optionally substituted by (C<sub>1-6</sub>)alkyl or (C<sub>2-6</sub>)alkenyl;

in addition when R<sup>3</sup> is disubstituted with a hydroxy or amino containing substituent and carboxy containing substituent these may together form a cyclic ester or amide linkage, respectively;

R<sup>4</sup> is a group -U-R<sup>5</sup> where

U is selected from CO, SO<sub>2</sub> and CH<sub>2</sub> and

R<sup>5</sup> is an optionally substituted bicyclic carbocyclic or heterocyclic ring system (A):



containing up to four heteroatoms in each ring in which

ring (a) is aromatic and ring (b) is non-aromatic;

$X^1$  is C or N;

5  $X^2$  is N,  $NR^{13}$ , O,  $S(O)_x$ , CO or  $CR^{14}$ ;

$X^3$  and  $X^5$  are independently N or C;

$Y^1$  is a 0 to 4 atom linker group each atom of which is independently selected from N,  $NR^{13}$ , O,  $S(O)_x$ , CO and  $CR^{14}$ ;

10  $Y^2$  is a 2 to 6 atom linker group, each atom of  $Y^2$  being independently selected from N,  $NR^{13}$ , O,  $S(O)_x$ , CO,  $CR^{14}$  and  $CR^{14}R^{15}$ ;

each of  $R^{14}$  and  $R^{15}$  is independently selected from: H; (C<sub>1-4</sub>)alkylthio; halo; carboxy(C<sub>1-4</sub>)alkyl; halo(C<sub>1-4</sub>)alkoxy; halo(C<sub>1-4</sub>)alkyl; (C<sub>1-4</sub>)alkyl; (C<sub>2-4</sub>)alkenyl; (C<sub>1-4</sub>)alkoxycarbonyl; formyl; (C<sub>1-4</sub>)alkylcarbonyl; (C<sub>2-4</sub>)alkenyloxycarbonyl; (C<sub>2-4</sub>)alkenylcarbonyl; (C<sub>1-4</sub>)alkylcarbonyloxy; (C<sub>1-4</sub>)alkoxycarbonyl(C<sub>1-4</sub>)alkyl; hydroxy; 15 hydroxy(C<sub>1-4</sub>)alkyl; mercapto(C<sub>1-4</sub>)alkyl; (C<sub>1-4</sub>)alkoxy; trifluoromethoxy; nitro; cyano; carboxy; amino or aminocarbonyl optionally substituted as for corresponding substituents in  $R^3$ ; (C<sub>1-4</sub>)alkylsulphonyl; (C<sub>2-4</sub>)alkenylsulphonyl; or aminosulphonyl wherein the amino group is optionally mono- or di-substituted by (C<sub>1-4</sub>)alkyl or (C<sub>2-4</sub>)alkenyl; aryl; aryl(C<sub>1-4</sub>)alkyl; aryl(C<sub>1-4</sub>)alkoxy;

20 each  $R^{13}$  is independently H; trifluoromethyl; (C<sub>1-4</sub>)alkyl optionally substituted by hydroxy, (C<sub>1-6</sub>)alkoxy, (C<sub>1-6</sub>)alkylthio, halo or trifluoromethyl; (C<sub>2-4</sub>)alkenyl; aryl; aryl (C<sub>1-4</sub>)alkyl; arylcarbonyl; heteroarylcarbonyl; (C<sub>1-4</sub>)alkoxycarbonyl; (C<sub>1-4</sub>)alkylcarbonyl; formyl; (C<sub>1-6</sub>)alkylsulphonyl; or aminocarbonyl wherein the amino group is optionally substituted by (C<sub>1-4</sub>)alkoxycarbonyl, (C<sub>1-4</sub>)alkylcarbonyl, (C<sub>2-4</sub>)alkenyloxycarbonyl, (C<sub>2-4</sub>)alkenylcarbonyl, (C<sub>1-4</sub>)alkyl or (C<sub>2-4</sub>)alkenyl and 25 optionally further substituted by (C<sub>1-4</sub>)alkyl or (C<sub>2-4</sub>)alkenyl;

each x is independently 0, 1 or 2

30 n is 0 and AB is  $NR^{11}CO$ ,  $CO-CR^8R^9$ ,  $CR^6R^7-CO$ ,  $NHR^{11}SO_2$ ,  $CR^6R^7-SO_2$  or  $CR^6R^7-CR^8R^9$ , provided that  $R^8$  and  $R^9$  are not optionally substituted hydroxy or amino and  $R^6$  and  $R^8$  do not represent a bond:  
or n is 1 and AB is  $NR^{11}CO$ ,  $CO-CR^8R^9$ ,  $CR^6R^7-CO$ ,  $NR^{11}SO_2$ ,  $CONR^{11}$ ,  $CR^6R^7-CR^8R^9$ ,  $O-CR^8R^9$  or  $NR^{11}-CR^8R^9$ ;

each of R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup> and R<sup>9</sup> is independently selected from: hydrogen; (C<sub>1-6</sub>)alkoxy; (C<sub>1-6</sub>)alkylthio; halo; trifluoromethyl; azido; (C<sub>1-6</sub>)alkyl; (C<sub>2-6</sub>)alkenyl; (C<sub>1-6</sub>)alkoxycarbonyl; (C<sub>1-6</sub>)alkylcarbonyl; (C<sub>2-6</sub>)alkenyloxycarbonyl; (C<sub>2-6</sub>)alkenylcarbonyl; hydroxy, amino or aminocarbonyl optionally substituted as for corresponding substituents in R<sup>3</sup>; (C<sub>1-6</sub>)alkylsulphonyl; (C<sub>2-6</sub>)alkenylsulphonyl; or aminosulphonyl wherein the amino group is optionally substituted by (C<sub>1-6</sub>)alkyl or (C<sub>2-6</sub>)alkenyl;

or when n=1 R<sup>6</sup> and R<sup>8</sup> together represent a bond and R<sup>7</sup> and R<sup>9</sup> are as above defined; or R<sup>6</sup> and R<sup>7</sup> or R<sup>8</sup> and R<sup>9</sup> together represent oxo;

R<sup>10</sup> is selected from (C<sub>1-4</sub>)alkyl; (C<sub>2-4</sub>)alkenyl and aryl any of which may be optionally substituted by a group R<sup>12</sup> as defined above; carboxy; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, (C<sub>1-6</sub>)alkyl, (C<sub>2-6</sub>)alkenyl, (C<sub>1-6</sub>)alkylsulphonyl, trifluoromethylsulphonyl, (C<sub>2-6</sub>)alkenylsulphonyl, (C<sub>1-6</sub>)alkoxycarbonyl, (C<sub>1-6</sub>)alkylcarbonyl, (C<sub>2-6</sub>)alkenyloxycarbonyl or (C<sub>2-6</sub>)alkenylcarbonyl and optionally further substituted by (C<sub>1-6</sub>)alkyl or (C<sub>2-6</sub>)alkenyl; and

R<sup>11</sup> is hydrogen; trifluoromethyl, (C<sub>1-6</sub>)alkyl; (C<sub>2-6</sub>)alkenyl; (C<sub>1-6</sub>)alkoxycarbonyl; (C<sub>1-6</sub>)alkylcarbonyl; or aminocarbonyl wherein the amino group is optionally substituted by (C<sub>1-6</sub>)alkoxycarbonyl, (C<sub>1-6</sub>)alkylcarbonyl, (C<sub>2-6</sub>)alkenyloxycarbonyl, (C<sub>2-6</sub>)alkenylcarbonyl, (C<sub>1-6</sub>)alkyl or (C<sub>2-6</sub>)alkenyl and optionally further substituted by (C<sub>1-6</sub>)alkyl or (C<sub>2-6</sub>)alkenyl;

or where one of R<sup>3</sup> and R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup> or R<sup>9</sup> contains a carboxy group and the other contains a hydroxy or amino group they may together form a cyclic ester or amide linkage.

2. A compound according to claim 1 wherein Z<sup>5</sup> is CH, C-Cl or N, Z<sup>3</sup> is CH or CF and Z<sup>1</sup>, Z<sup>2</sup> and Z<sup>4</sup> are each CH, or Z<sup>1</sup> is N, Z<sup>3</sup> is CH and Z<sup>2</sup> and Z<sup>4</sup> are each CH and Z<sup>5</sup> is CH or C-Cl.

3. A compound according to any preceding claim wherein R<sup>1</sup> is methoxy and R<sup>1a</sup> is H or when Z<sup>3</sup> is CR<sup>1a</sup> it may be C-F or when Z<sup>5</sup> is CR<sup>1a</sup> it may be C-F or C-Cl.

4. A compound according to any preceding claim wherein R<sup>2</sup> is hydrogen, carboxymethyl, hydroxyethyl, aminocarbonylmethyl, ethoxycarbonylmethyl, ethoxycarbonylallyl or carboxyallyl.

5. A compound according to any preceding claim wherein R<sup>3</sup> is CF<sub>3</sub>, fluoro, oxo or amino unsubstituted or substituted by (C<sub>1-6</sub>)alkyl or (C<sub>2-6</sub>)alkenyl.
6. A compound according to any preceding claim wherein n is 0 and either A is CH<sub>2</sub> or CHOH and B is CH<sub>2</sub> or A is NH and B is CO.
7. A compound according to any preceding claim wherein -U- is -CH<sub>2</sub>-.
8. A compound according to any preceding claim wherein in the heterocyclic ring (A) ring (a) is selected from optionally substituted benzo and pyrido and Y<sup>2</sup> has 3-5 atoms including a heteroatom bonded to X<sup>5</sup> selected from NR<sup>13</sup>, O or S, where R<sup>13</sup> is other than hydrogen, and NHCO bonded via N to X<sup>3</sup>, or O or NH bonded to X<sup>3</sup>.
9. A compound according to any one of claims 1 to 6 wherein R<sup>5</sup> is selected from:
  - 4H-benzo[1,4] oxazin-3-one-6-yl
  - 4H-benzo[1,4] thiazin-3-one-6-yl
  - 2,3-dihydro-[1,4]dioxino[2,3-c]pyridin-7-yl
  - 3-oxo-3,4-dihydro-2H-pyrido[3,2-b][1,4]thiazin-6-yl
  - 3-oxo-3,4-dihydro-2H-pyrido[3,2-b][1,4]oxazin-6-yl
  - 7-chloro-3-oxo-3,4-dihydro-2H-pyrido[3,2-b][1,4]oxazin-6-yl
  - 7-chloro-3-oxo-3,4-dihydro-2H-pyrido[3,2-b][1,4]thiazin-6-yl.
10. A compound according to claim 1 selected from:
  - 6-({2*S*,4*S*)-1-[(*R*)-2-Hydroxy-2-(6-methoxy-[1,5]naphthyridin-4-yl)ethyl]-2-(trifluoromethyl)piperidin-4-ylamino}methyl)-4*H*-benzo[1,4]thiazin-3-one;
  - 6-({(3*R*,4*S*)-1-[(*R*)-2-Hydroxy-2-(6-methoxy-[1,5]naphthyridin-4-yl)ethyl]-3-(trifluoromethyl)piperidin-4-ylamino}methyl)-4*H*-benzo[1,4]thiazin-3-one;
  - 6-({1-[(*R*)-2-Hydroxy-2-(6-methoxy-[1,5]naphthyridin-4-yl)ethyl]-4-(trifluoromethyl)piperidin-4-ylamino}methyl)-4*H*-benzo[1,4]thiazin-3-one;
  - 6-({1-[(*R*)-2-Hydroxy-2-(6-methoxyquinolin-4-yl)ethyl]-2-oxopiperidin-4-ylamino}methyl)-4*H*-benzo[1,4]thiazin-3-one;
  - 6-[({(3*S*,4*R*)-3-Fluoro-1-[(*R*)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}methyl)-4*H*-benzo[1,4]thiazin-3-one and 6-[({(3*R*,4*S*)-3-fluoro-1-[(*R*)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}methyl)-4*H*-benzo[1,4]thiazin-3-one ;
  - 6-({*cis*-3-Fluoro-1-[(*R*)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one Diastereoisomer 1 ;

- 6-({cis-3-Fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]-piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one Diastereoisomer 2 ;
- 7-Chloro-6-({cis-3-fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one Diastereoisomer 1 ;
- 5 7-Chloro-6-({cis-3-Fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one Diastereoisomer 2 ;
- 6-({cis-3-Fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one Diastereoisomer 1 ;
- 6-({cis-3-Fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one Diastereoisomer 2 ;
- 10 7-Chloro-6-[(({(3*S*,4*R*)-3-fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one and 7-chloro-6-[(({(3*R*,4*S*)-3-fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one ;
- 15 7-Fluoro-6-[(({(3*S*,4*R*)-3-fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one and 7-fluoro-6-[(({(3*R*,4*S*)-3-fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;
- 7-[(({(3*S*,4*R*)-3-fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-1*H*-pyrido[2,3-*b*][1,4]thiazin-2-one and 7-[(({(3*R*,4*S*)-3-fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-1*H*-pyrido[2,3-*b*][1,4]thiazin-2-one;
- 20 7-Chloro-6-[(({(3*S*,4*R*)-3-fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one and 7-chloro-6-[(({(3*R*,4*S*)-3-fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one;
- 25 6-[(({(3*S*,4*S*)-3-Fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one and 6-[(({(3*R*,4*R*)-3-fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;
- 30 6-[(({(3*S*,4*S*)-3-Fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one and 6-[(({(3*R*,4*R*)-3-fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one;
- 35 7-Fluoro-6-[(({(3*S*,4*S*)-3-fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one and 7-Fluoro-6-[(({(3*R*,4*R*)-3-fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-

ylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;

6-[(*{(3S,4S)-3-Fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}methyl*)-1*H*-pyrido[2,3-*b*][1,4]thiazin-3-one and 6-[(*{(3R,4R)-3-Fluoro-1-[(R)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}methyl*)-1*H*-

5 pyrido[2,3-*b*][1,4]thiazin-3-one;

6-[(*cis*-3-Fluoro-1-[(*R*)-2-hydroxy-2-(6-methoxy-[1,5]naphthyridin)-ethyl]piperidin-4-ylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one Diastereoisomer 1;

6-[(*cis*-3-Fluoro-1-[(*R*)-2-hydroxy-2-(6-methoxy-[1,5]naphthyridin)-ethyl]piperidin-4-ylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one Diastereoisomer 2;

10 6-[(*cis*-3-Fluoro-1-[(*R*)-2-hydroxy-2-(6-methoxy-[1,5]naphthyridin)-ethyl]piperidin-4-ylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one Diastereoisomer 1;

6-[(*cis*-3-Fluoro-1-[(*R*)-2-hydroxy-2-(6-methoxy-[1,5]naphthyridin)-ethyl]piperidin-4-ylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one Diastereoisomer 2;

15 7-Chloro-6-[(*cis*-3-fluoro-1-[(*R*)-2-hydroxy-2-(6-methoxy-[1,5]naphthyridin)-ethyl]piperidin-4-ylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one Diastereoisomer 1;

7-Chloro-6-[(*cis*-3-fluoro-1-[(*R*)-2-hydroxy-2-(6-methoxy-[1,5]naphthyridin)-ethyl]piperidin-4-ylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one Diastereoisomer 2;

20 6-[(*cis*-3-Fluoro-1-[(*R*)-2-hydroxy-2-(8-fluoro-6-methoxy-quinolin-4-yl)-ethyl]piperidin-4-ylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one Diastereoisomer 1;

6-[(*cis*-3-Fluoro-1-[(*R*)-2-hydroxy-2-(8-fluoro-6-methoxy-quinolin-4-yl)-ethyl]piperidin-4-ylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one Diastereoisomer 1;

25 6-[(*{(3R,4S)-1-[2-(3-Chloro-6-methoxy-quinolin-4-yl)-ethyl]-3-fluoro-piperidin-4-ylamino}methyl*)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one and 6-[(*{(3S,4R)-1-[2-(3-Chloro-6-methoxy-quinolin-4-yl)-ethyl]-3-fluoro-piperidin-4-ylamino}methyl*)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;

6-[(*{(3R,4S)-3-Fluoro-1-[2-(6-methoxy-[1,5]naphthyridin-4-yl)-ethyl]piperidin-4-ylamino}methyl*)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one and 6-[(*{(3S,4R)-3-fluoro-1-[2-(6-methoxy-[1,5]naphthyridin-4-yl)-ethyl]piperidin-4-ylamino}methyl*)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;

30 6-[(*{(3S,4R)-3-Fluoro-1-[(S)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}methyl*)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one and 6-[(*{(3R,4S)-3-fluoro-1-[(S)-2-hydroxy-2-(6-methoxyquinolin-4-yl)-ethyl]piperidin-4-ylamino}methyl*)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;

35 6-[(*{(3R,4S)-1-[2-(2,3-Dihydro-[1,4]dioxino[2,3-*f*]quinolin-10-yl)-ethyl]-3-fluoro-piperidin-4-ylamino}methyl*)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one and 6-[(*{(3S,4R)-1-[2-*

(2,3-dihydro-[1,4]dioxino[2,3-f]quinolin-10-yl)-ethyl]-3-fluoro-piperidin-4-ylamino}-methyl)-4H-pyrido[3,2-b][1,4]thiazin-3-one;  
 6-(((3R,4S)-1-[2-(6,8-Difluoro-quinolin-4-yl)-ethyl]-3-fluoro-piperidin-4-ylamino)-methyl)-4H-pyrido[3,2-b][1,4]thiazin-3-one and 6-(((3S,4R)-1-[2-(6,8-difluoro-quinolin-4-yl)-ethyl]-3-fluoro-piperidin-4-ylamino)-methyl)-4H-pyrido[3,2-b][1,4]thiazin-3-one;  
 5 6-(((3S,4R)-3-Fluoro-1-[(R)-2-hydroxy-2-(6-methoxy-[1,5]naphthyridin-4-yl)-ethyl]piperidin-4-ylamino)methyl)-4H-benzo[1,4]thiazin-3-one and 6-(((3R,4S)-3-Fluoro-1-[(R)-2-hydroxy-2-(6-methoxy-[1,5]naphthyridin-4-yl)-ethyl]piperidin-4-ylamino)methyl)-4H-benzo[1,4]thiazin-3-one;  
 10 6-(((cis-3-Fluoro-1-[(R)-2-hydroxy-2-(6-methoxy-[1,5]naphthyridin-4-yl)-ethyl]piperidin-4-ylamino)methyl)-4H-benzo[1,4]thiazin-3-one Faster running Diastereoisomer;  
 6-(((cis-3-Fluoro-1-[(R)-2-hydroxy-2-(6-methoxy-[1,5]naphthyridin-4-yl)-ethyl]piperidin-4-ylamino)methyl)-4H-benzo[1,4]thiazin-3-one Slower-running  
 15 Diastereoisomer;  
 6-((2S,4S)-1-[(R)-2-hydroxy-2-(6-methoxy-[1,5]naphthyridin-4-yl)ethyl]-2-(trifluoromethyl)piperidin-4-ylamino)methyl)-4H-pyrido[1,4]thiazin-3-one ;  
 6-((2S,4R)-1-[(R)-2-hydroxy-2-(6-methoxy-[1,5]naphthyridin-4-yl)ethyl]-2-(trifluoromethyl)piperidin-4-ylamino)methyl)-4H-pyrido[1,4]thiazin-3-one;  
 20 or a pharmaceutically acceptable derivative thereof.

11. A method of treatment of bacterial infections in mammals, particularly in man, which method comprises the administration to a mammal in need of such treatment an effective amount of a compound according to claim 1.

12. The use of a compound according to claim 1, in the manufacture of a medicament for use in the treatment of bacterial infections in mammals.

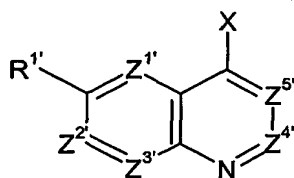
13. A pharmaceutical composition comprising a compound according to claim 1 and a pharmaceutically acceptable carrier for use in the treatment of bacterial infections in mammals.

14. A pharmaceutical composition comprising a compound according to claim 1, and a pharmaceutically acceptable carrier.

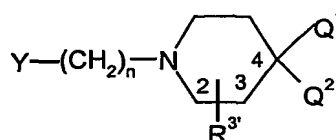
15. A compound according to claim 1 for use as a medicament.

16. A compound according to claim 1 for use in the treatment of bacterial infections in mammals.

17. A process for preparing a compound of formula (I) according to claim 1, or a pharmaceutically acceptable derivative thereof, which process comprises reacting a compound of formula (IV) with a compound of formula (V):



(IV)



(V)

wherein n is as defined in formula (I); Z¹', Z²', Z³', Z⁴', Z⁵', R¹', and R³' are Z¹, Z², Z³, Z⁴, Z⁵, R¹, and R³ as defined in formula (I) or groups convertible thereto;

Q¹ is NR²'R⁴' or a group convertible thereto wherein R²' and R⁴' are R² and R⁴ as defined in formula (I) or groups convertible thereto and Q² is H or R³' or Q¹ and Q²

together form an optionally protected oxo group;

(i) X is A'-COW, Y is H and n is 0;

(ii) X is CR⁶=CR⁸R⁹, Y is H and n is 0;

(iii) X is oxirane, Y is H and n is 0;

(iv) X is N=C=O and Y is H and n is 0;

(v) one of X and Y is CO₂RY and the other is CH₂CO₂Rˣ;

(vi) X is CHR⁶R⁷ and Y is C(=O)R⁹;

(vii) X is CR⁷=PRᶻ³ and Y is C(=O)R⁹ and n=1;

(viii) X is C(=O)R⁷ and Y is CR⁹=PRᶻ³ and n=1;

(ix) Y is COW and X is NHR¹¹' or NR¹¹'COW and n=0 or 1 or when n=1 X is COW and Y is NHR¹¹' or NR¹¹'COW;

(x) X is NHR¹¹' and Y is C(=O)R⁸ and n=1;

(xi) X is NHR¹¹' and Y is CR⁸R⁹W and n=1;

(xii) X is NR¹¹'COCH₂W or NR¹¹'SO₂CH₂W and Y is H and n=0;

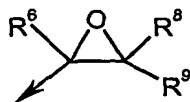
(xiii) X is CR⁶R⁷SO₂W and Y is H and n=0;

(xiv) X is W or OH and Y is CH₂OH and n is 1;

(xv) X is NHR¹¹' and Y is SO₂W or X is NR¹¹'SO₂W and Y is H, and n is 0;

(xvi) X is W and Y is CONHR¹¹';

in which W is a leaving group, e.g. halo or imidazolyl;  $R^X$  and  $R^Y$  are  $(C_{1-6})$ alkyl;  $R^Z$  is aryl or  $(C_{1-6})$ alkyl;  $A'$  and  $NR^{11'}$  are A and  $NR^{11}$  as defined in formula (I), or groups convertible thereto; and oxirane is:



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wherein  $R^6$ ,  $R^8$  and  $R^9$  are as defined in formula (I);

and thereafter optionally or as necessary converting  $Q^1$  and  $Q^2$  to  $NR^{2'}R^{4'}$ ; converting  $A'$ ,  $Z^{1'}$ ,  $Z^{2'}$ ,  $Z^{3'}$ ,  $Z^{4'}$ ,  $Z^{5'}$ ,  $R^{1'}$ ,  $R^{2'}$ ,  $R^{3'}$ ,  $R^{4'}$  and  $NR^{11'}$ ; to A,  $Z^1$ ,  $Z^2$ ,  $Z^3$ ,  $Z^4$ ,  $Z^5$ ,  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$  and  $NR^{11}$ ; converting A-B to other A-B, interconverting  $R^1$ ,  $R^2$ ,  $R^3$  and/or  $R^4$ ,

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and/or forming a pharmaceutically acceptable derivative thereof.